

# BUFFALO Dyehouse and Bleachery Ventilation

CATALOG No. 721

## Buffalo Forge Company

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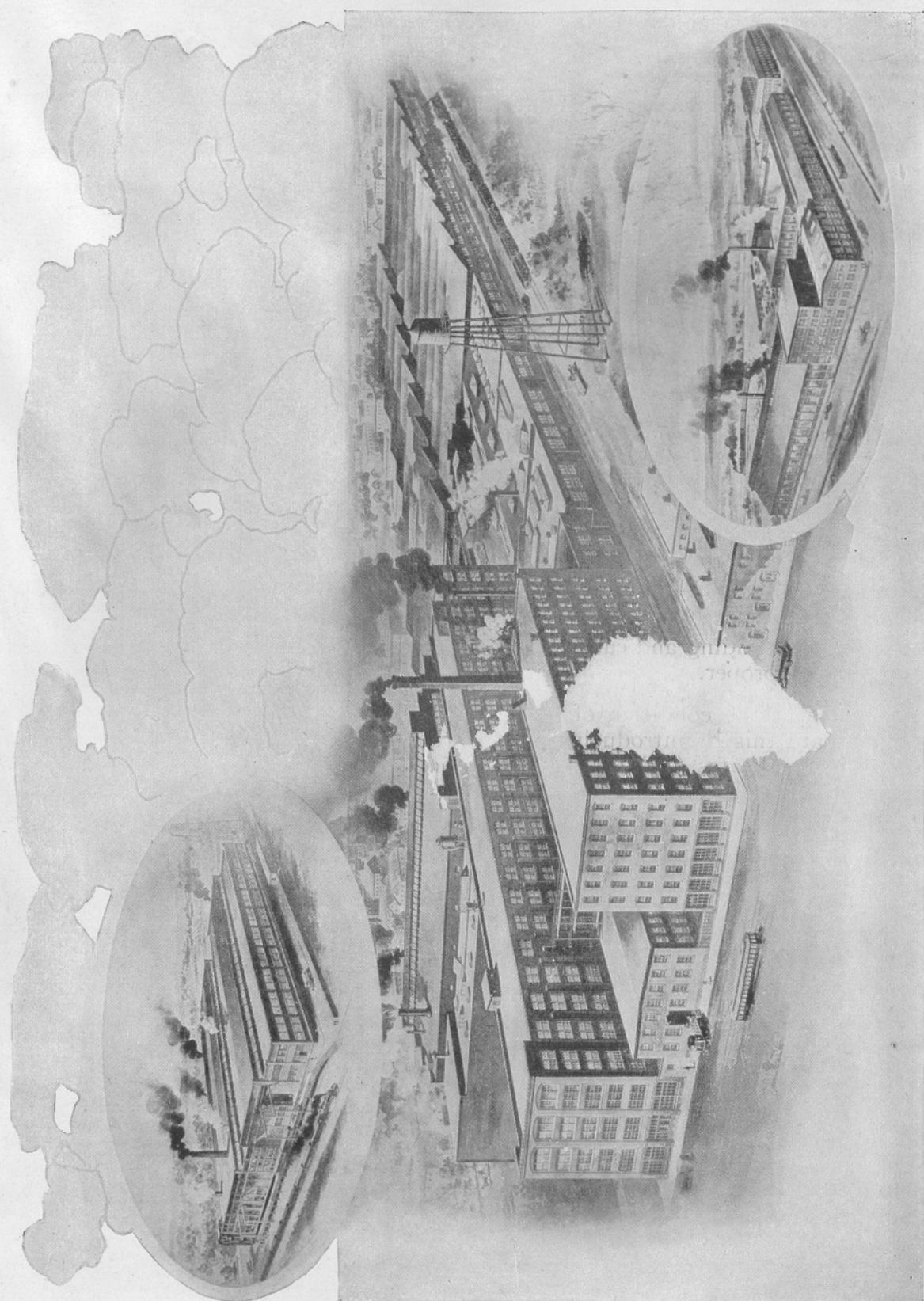
## FOREWORD

**T**o all dyehouse and bleachery owners and operators the world over we dedicate this booklet.

Our engineers, after exhaustive study and experimentation, have solved the problem of successful dyehouse and bleachery ventilation, and pursuing our usual policy we are making this information available to all interested.

Let us help you keep your dyehouse and bleachery free from steam and roof condensation.

BUFFALO FCRGE COMPANY



## The Buffalo System of Dyehouse and Bleachery Ventilation

THE dyehouse and bleachery with its fog and incessant dripping of moisture from the roof is one of the most difficult problems the ventilating engineer must solve. Most engineers have considered the conditions a necessary evil and hence tolerated them accordingly.

The Buffalo Forge Company has always felt that the dyehouse and bleachery could be made just as livable as the rest of the modern factory and with this thought in mind its engineers tackled the problem. How successful they have been is evidenced by the photographs on the following pages, which speak louder than volumes of mere words.

### THE PROBLEM

In dyehouse and bleachery ventilation the problem consists of two parts:—

First: The removal of the large volumes of steam and water vapor given off by the kiers, dyeing machines and tubs.

Second: To prevent this moisture from condensing on the cool interior surfaces of the building or causing dripping and unnecessary rapid depreciation of the building.

To remove excessive steam and vapor it has been found best to dissipate the excess emanating warm air directly over the machine from which the excess emanates, and this must be done without violating any of the natural tendencies of air travel in the room. This is not as easy and simple as it sounds.

Just what quantity of air is needed is governed by the actual conditions and no fixed rule can be laid down which will give positive results in all cases.

The condensation is prevented by introducing a film of heated air to move along the surfaces upon which the condensation tends to settle and thus form an insulator along these surfaces. Here again the natural air current tendencies must be carefully considered.

Wherever there is a strong natural up draft, such as directly over a kier, dyeing machine or tub, this condition should be utilized and the exhaust located directly above if possible.

Relative to the design of a system to give satisfactory results it is impossible to lay down any hard and fast rules, for each case must be considered first hand. The location of all machines, the amount of work handled by each machine, the points in the room where the men work and the runways where trucking is done must be known. The location of all roof timbers is an important item and the natural draft tendencies must be studied. From this it will be seen that no amount of blue print study will solve existing conditions but they must be observed in actual operation and recommendations made accordingly.

*Buffalo*

## THE PROOF

The following series of seven pictures present the most conclusive proof of the efficiency and effectiveness of the Buffalo System of Dye House and Bleachery Ventilation.

These pictures were taken in the dyehouse of the woolen mills of the Faulkner & Colony Manufacturing Co. at Keene, New Hampshire, where the ventilating apparatus was designed and installed by the Buffalo Forge Company's engineers. The Faulkner & Colony Co. handle high grade dress goods, billiard cloth, etc.

These pictures were taken at one minute intervals from the time the ventilating apparatus was started until the room was free from all fog. This took just six minutes.

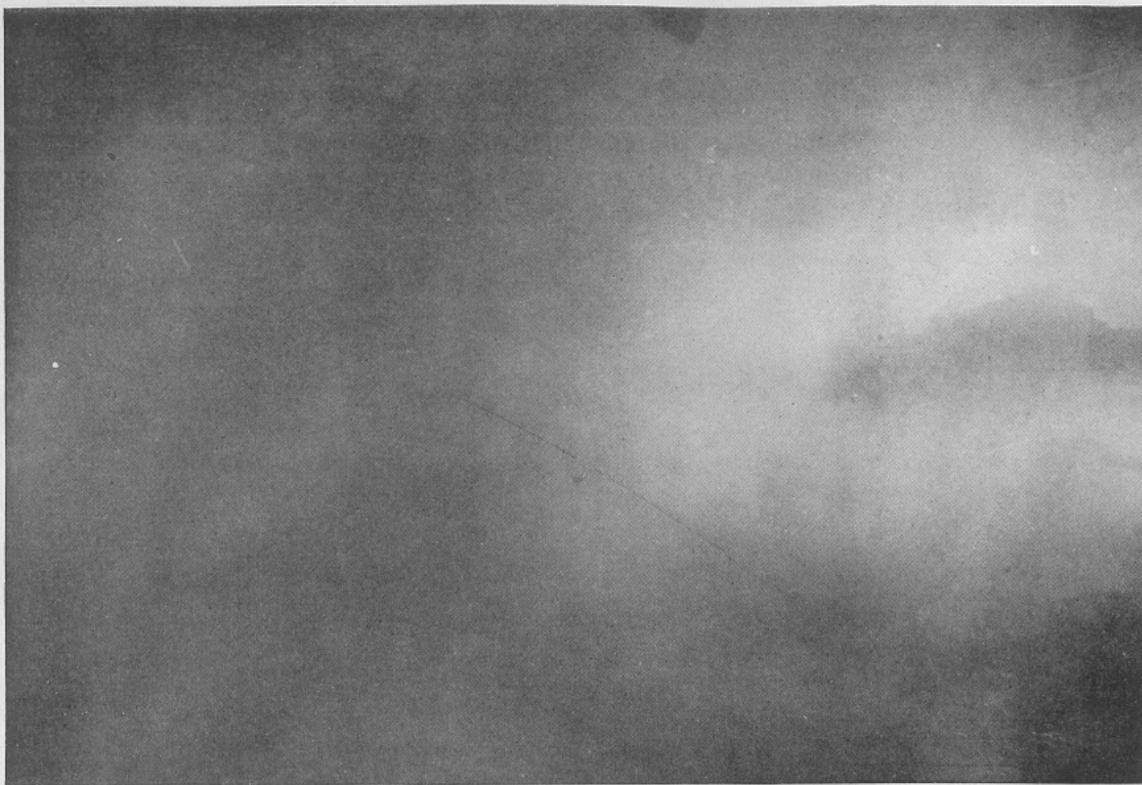


Does this picture represent your own dyehouse condition?

Here we have the first view taken just as the ventilating apparatus was started. It is impossible to make out any of the machine outlines or any of the features of the room. This scene is typical of a non-mechanically ventilated dyehouse.

“Buffalo”

— DYEHOUSE AND BLEACHERY VENTILATION —



The fan has been running just one minute and the lifting of the fog makes it possible to distinguish the floor boards in the lower right hand corner of the picture



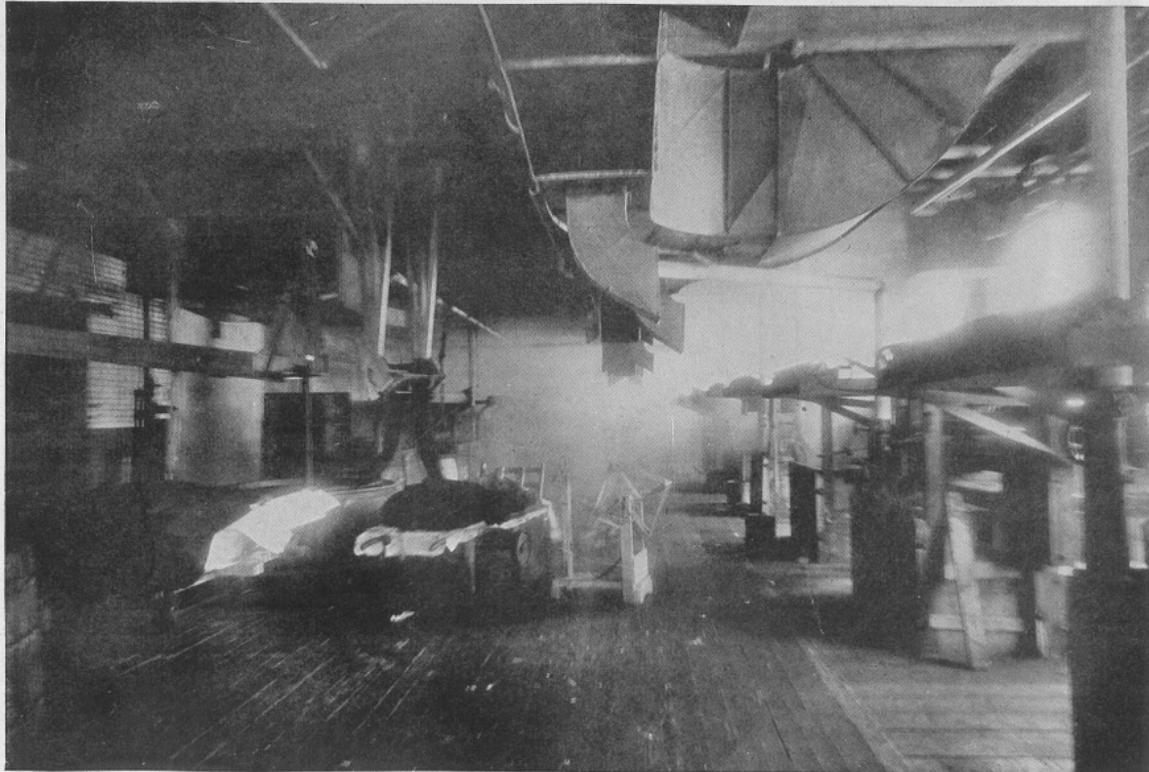
After two minutes the machine outlines are becoming visible. Notice the clearness of the right lower corner.

*“Buffalo”*

— DYEHOUSE AND BLEACHERY VENTILATION —

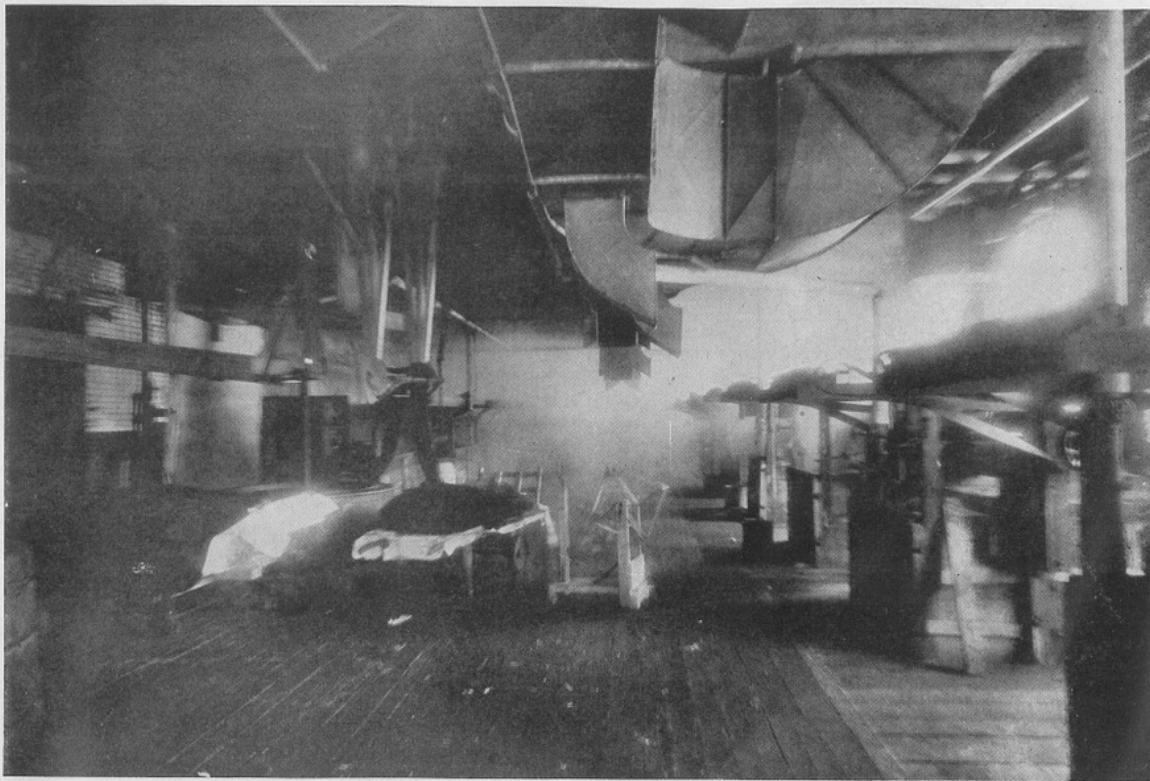


Three minutes have elapsed and we are gradually getting distance into our picture. The fog is rising so that we can distinguish the outlines of the ventilating ducts.

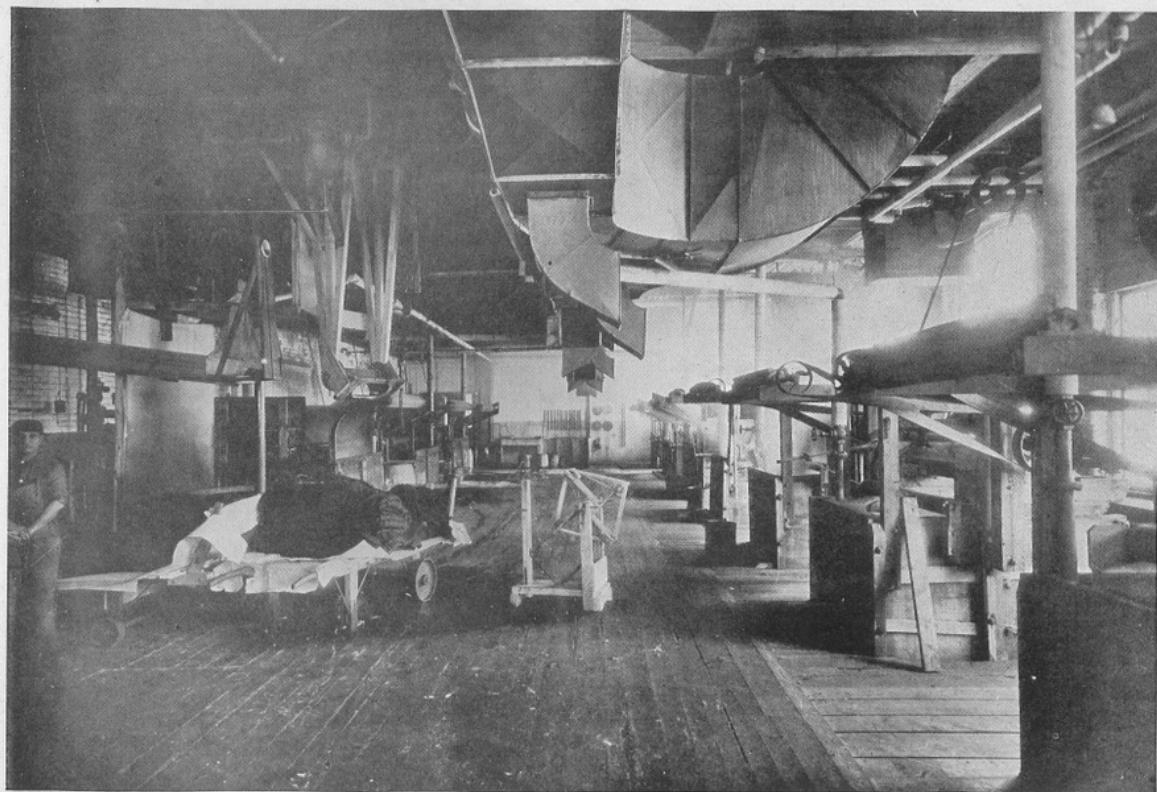


The fourth minute has worked wonders. Just compare this view with the one at the end of the third minute shown above.

— DYEHOUSE AND BLEACHERY VENTILATION —



The end of the fifth minute leaves but a few traces of fog scattered here and there through the room

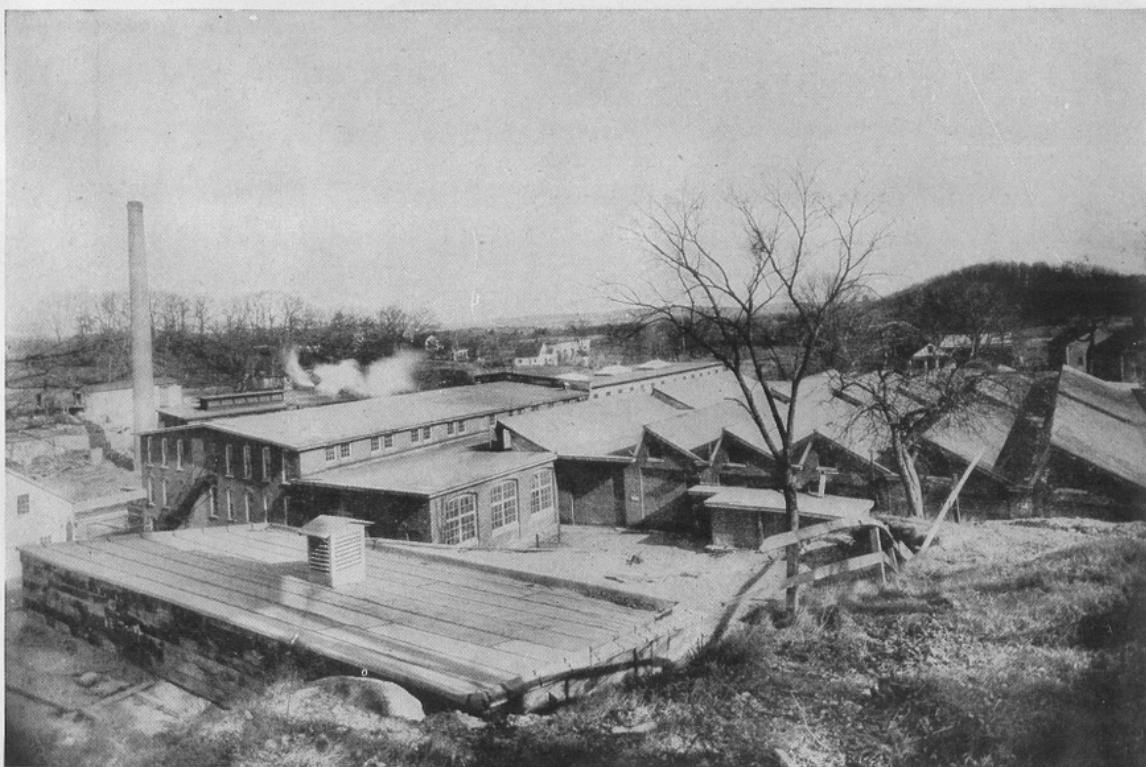


The sixth minute completes the transformation and all fog has vanished.

The above scenes do not portray the unusual or exceptional, but are typical of all Buffalo Dyehouse and Bleachery Installations.

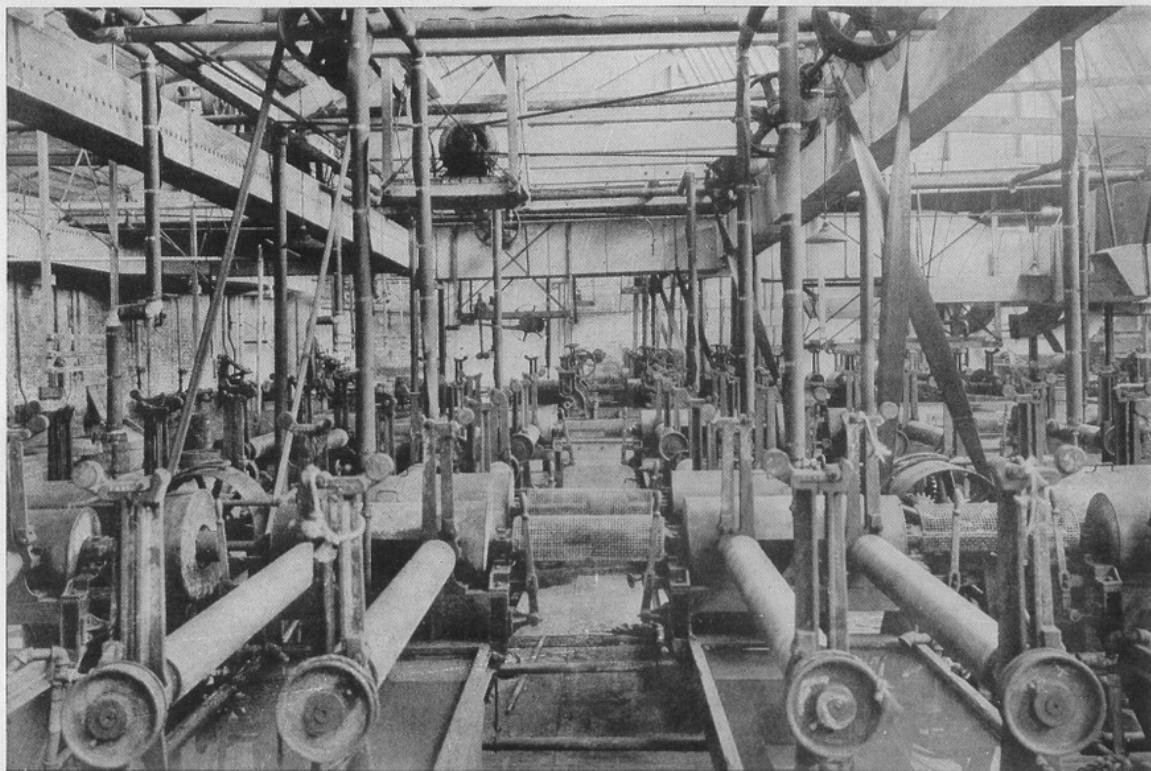
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— DYEHOUSE AND BLEACHERY VENTILATION —



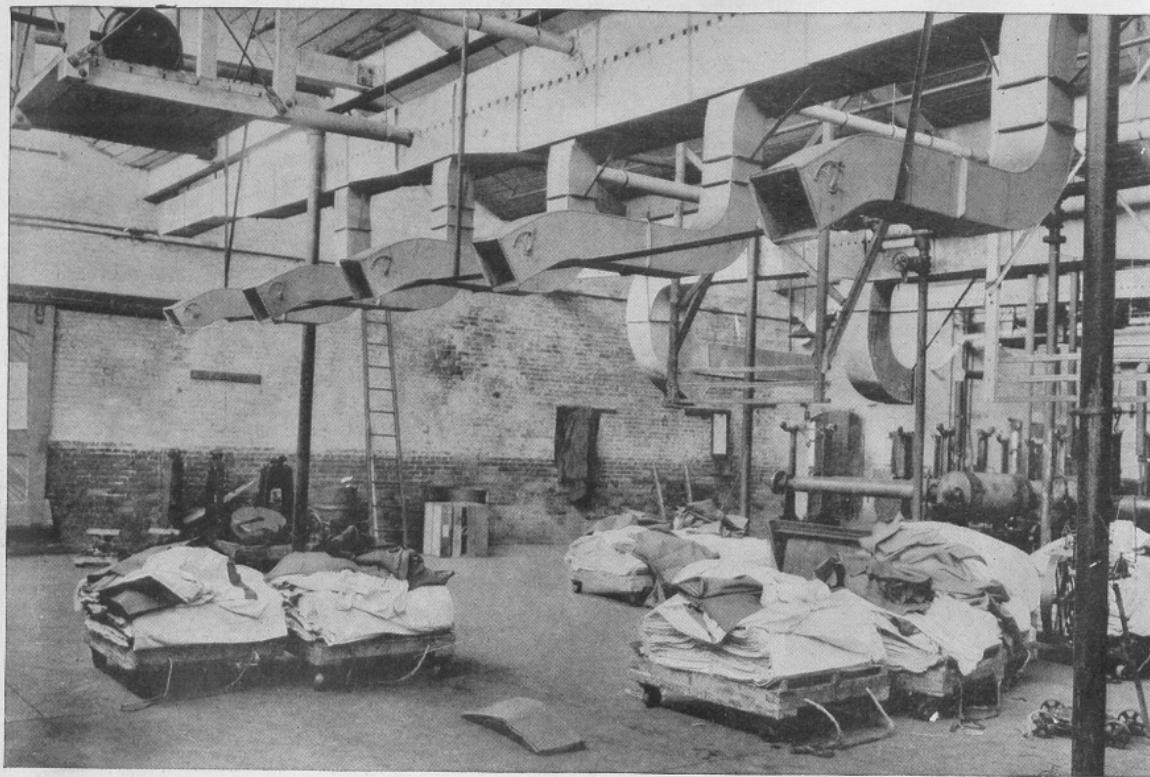
The Anco Mills, Wilkinsonville, Mass.

Cotton Finishing

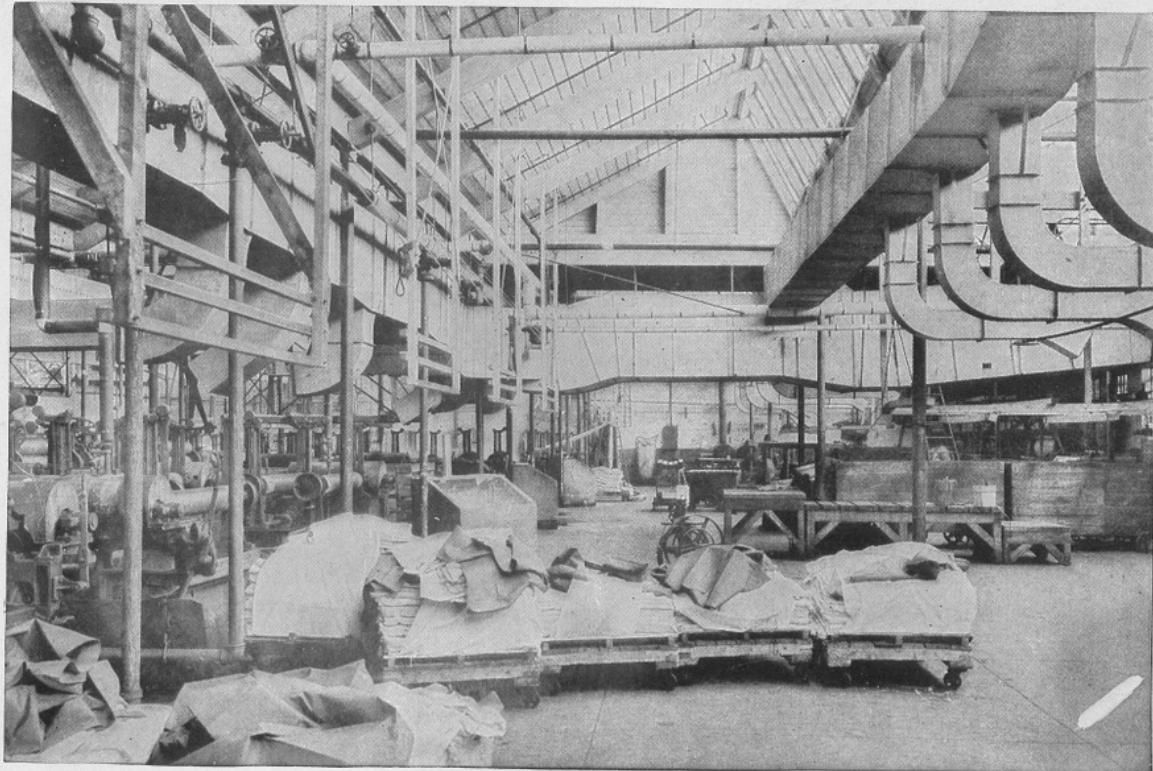


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— DYEHOUSE AND BLEACHERY VENTILATION —

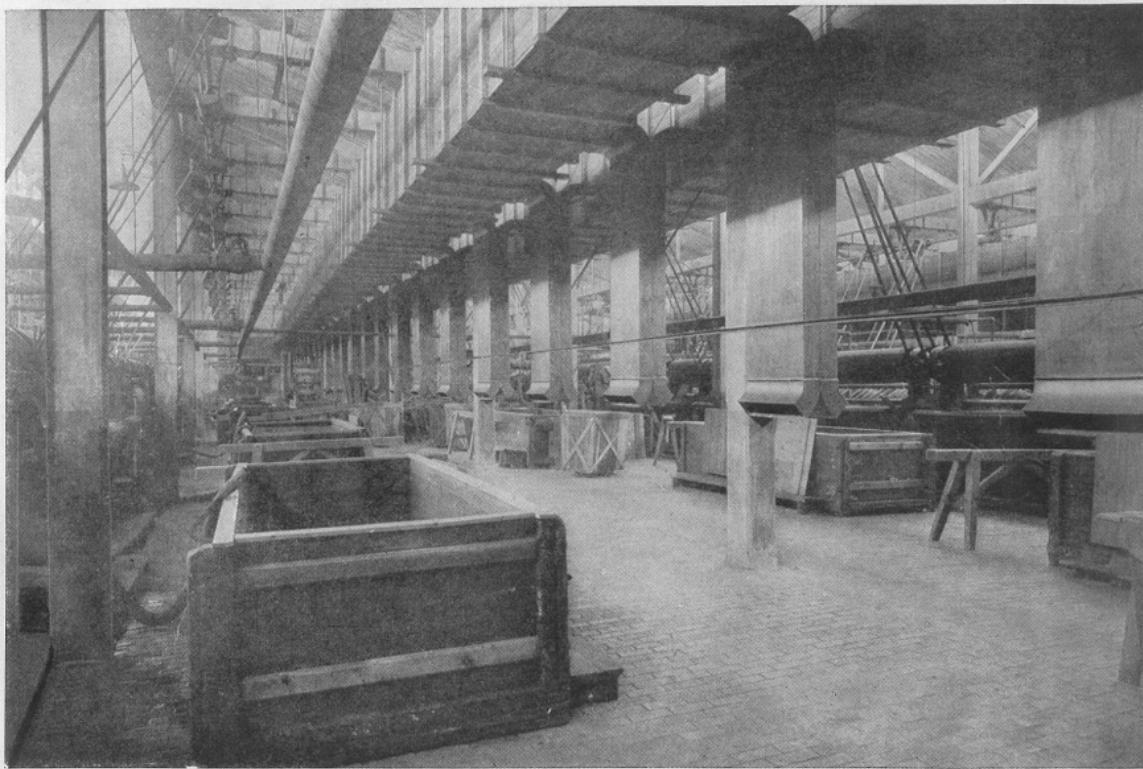


More Anco Mills Views

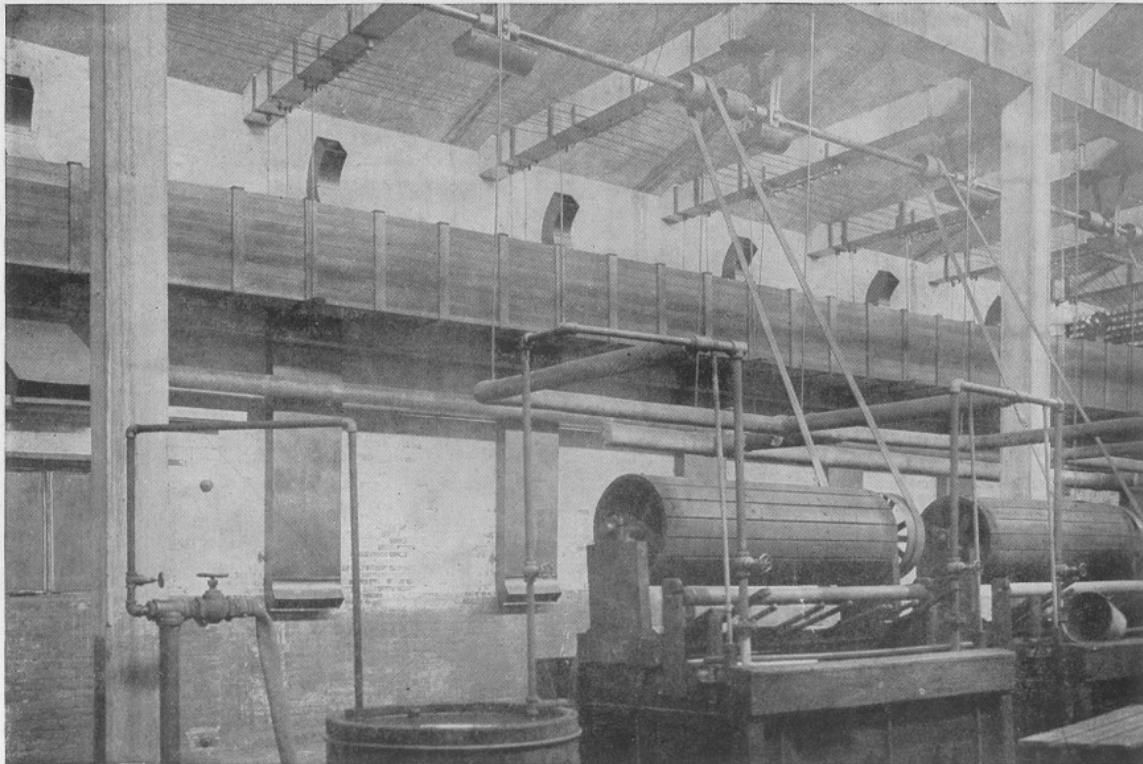


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— DYEHOUSE AND BLEACHERY VENTILATION —



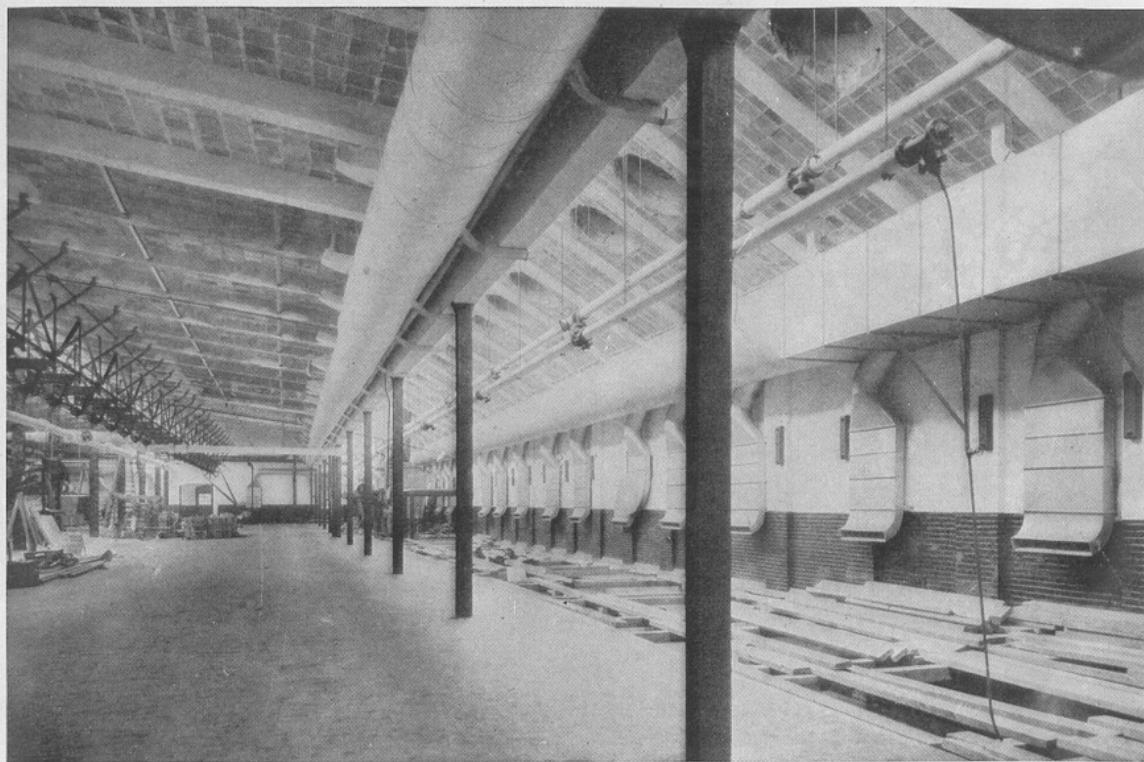
The Largest Worsted Mill in the United States



These pictures show very clearly the largest non-corroding duct ever installed in dyehouse ventilation work

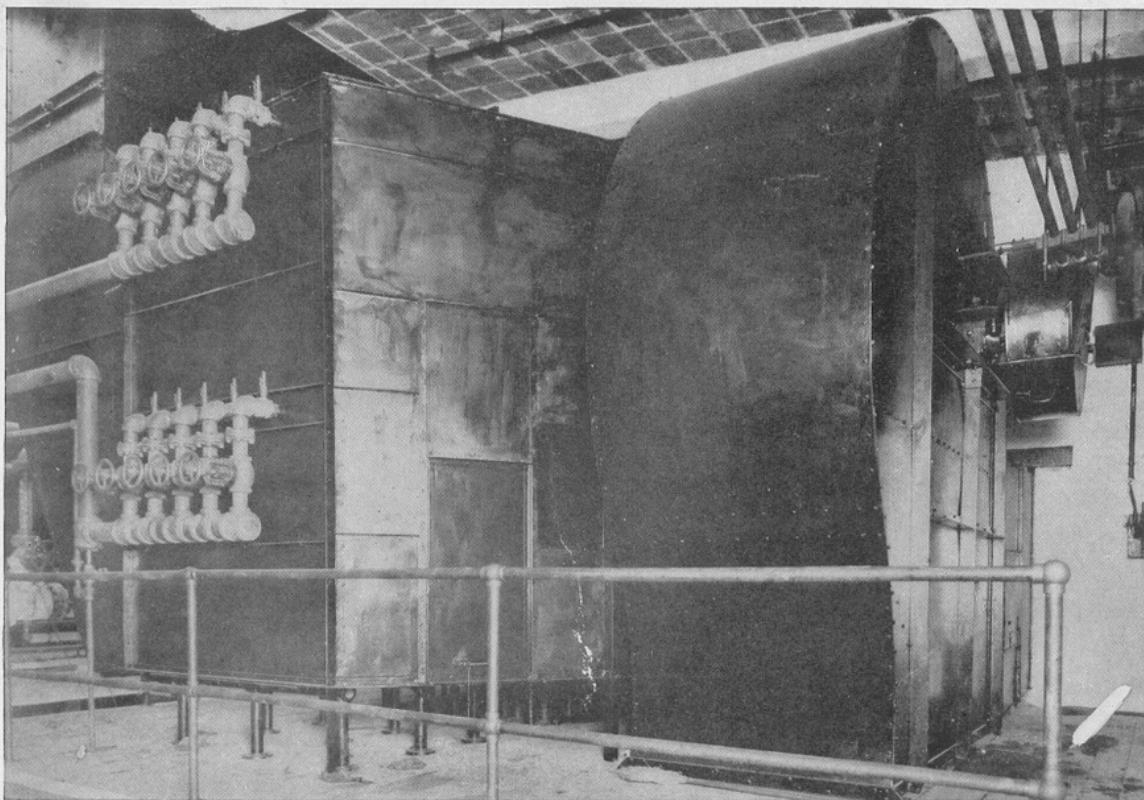
*"Buffalo"*

— DYEHOUSE AND BLEACHERY VENTILATION —



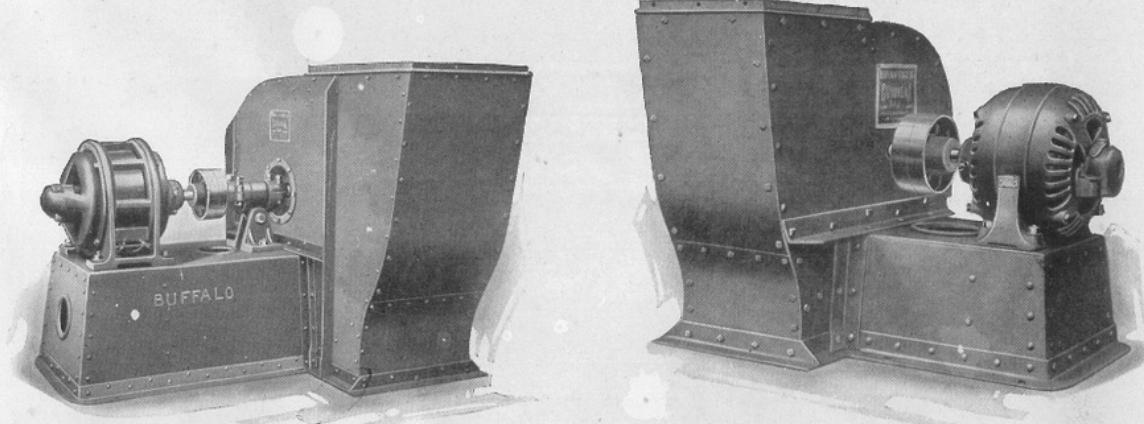
A Representative Alpaca Finishing Plant.

One corner of the dyehouse. This plant is now in full operation and absolutely free from all visible fog and condensation.



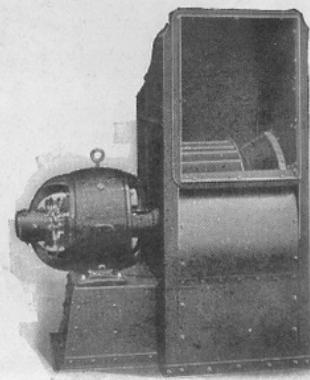
This is the Buffalo apparatus that makes the above statement possible

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## Motor Driven Fans

We have found it advisable in most cases to install engine driven fans, preferably direct connected, this method being most economical and permits of a wide speed variation. There are, however, innumerable cases where the location desired for the fan apparatus is such that as little attention as possible shall be required for its operation; in cases such as these motor drive affords the solution and special fan designs have been made for use in connection with motors. A motor base is constructed in connection with the fan housing, either of a heavy cast iron one piece box construction or built up of heavy sheet iron and reinforced with angles. The base is stiffened across the interior by ribs if made of cast iron, or heavy angle braces in the built up construction and made with rounded corners thus combining the necessary strength with a pleasing appearance. In the case of the smaller size of fans with one inlet the fan wheel may be overhung on the motor shaft, which is extended for this purpose; however, it is preferable to use a coupling and place a bearing on the side of the fan farthest from the motor. Wherever alternating current is used, the high speeds at which the regular motors run, make it impossible to use a direct connected unit for heating and ventilating work, except in very rare cases. For direct current, motors may be obtained for any desired speed, and although a slow speed motor is more expensive than a high speed motor of the same power, the advantage gained is sufficient to warrant the adoption of the slow speed motor except in the largest sizes of ventilating fans which operate to best advantage at slow speeds.



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## BUFFALO EQUIPPED DYEHOUSES AND BLEACHERIES

### COTTON

American Printing Co.	- - - - -	Fall River, Mass.
Anco Mills	- - - - -	Wilkinsonville, Mass.
Arnold Print Works	- - - - -	North Adams, Mass.
Brighton Mills	- - - - -	Passaic, N. J.
Great Falls Bleach & Dye Works	- - - - -	Somersworth, N. H.
Middlesex Bleacheries	- - - - -	Somerville, Mass.
Mt. Hope Finishing Co.	- - - - -	N. Dighton, Mass.
Nyanza Mills	- - - - -	Woonsocket, R. I.
Sayles Bleacheries	- - - - -	Saylesville, R. I.
The Hampton Co.	- - - - -	East Hampton Mass.
Springdale Finishing Co.	- - - - -	Canton, Mass.
Pacific Mills	- - - - -	Lawrence, Mass.
Bronx Co.	- - - - -	New York City, N. Y.

### WOOL

Assabet Mills	- - - - -	Maynard, Mass.
Farr Alpaca Co.	- - - - -	Holyoke, Mass.
Faulkner Colony Mfg. Co.	- - - - -	Keene, N. H.
Glenlyon Dye Works	- - - - -	Phillipsdale, R. I.
Manton Mills	- - - - -	Manton, R. I.
Baltic Mills	- - - - -	Enfield, N. H.
Mearius Mfg. Co.	- - - - -	Norwalk, Conn.
Botany Worsted Mills	- - - - -	Passaic, N. J.
S. B. & B. W. Fleisher Co.	- - - - -	Philadelphia, Pa.

### SILK

Cheney Brothers	- - - - -	S. Manchester, Conn.
Dana Warp Mills	- - - - -	West Brook, Maine
Sussex Print Works	- - - - -	Newton, N. J.
Firth & Foster	- - - - -	Philadelphia, Pa.

(Watch This List Grow)

*Buffalo*

**SCANNED BY: AEM OF LOCKPORT NY USA**

**POSTED ON: SEPTEMBER 26, 2016**

**EDITED BY: BRIAN D. SZAFRANSKI**

**ELMA, NEW YORK USA**

**COURTESY OF: WESTERN NY GAS & STEAM ENGINE ASSOCIATION**

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**NOTE: ORIGINAL DOCUMENT HAD SEVERE WATER DAMAGE**

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